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# **SPARTAN LAMINATOR**

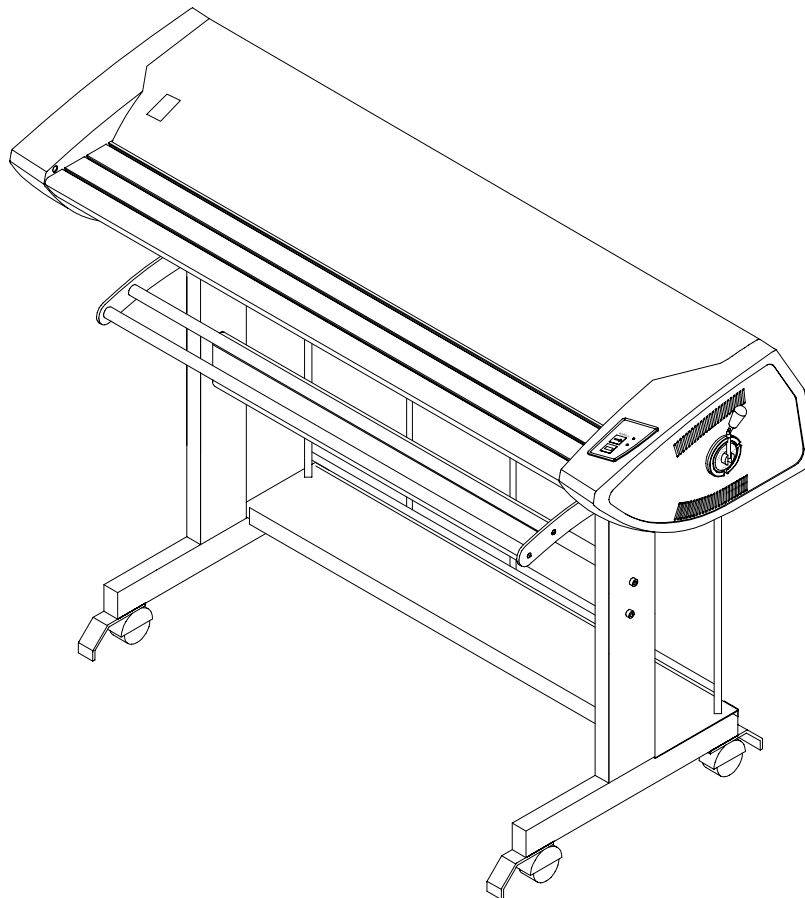
## **OPERATION & MAINTENANCE**

### **MANUAL**

**Part Number: 930-073 Rev: A Rev. Date: 6-9-04**  
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## 1.0 Safety



**CAUTION:** Do not attempt to operate your SPARTAN Laminator until you completely read and understand this Operations and Maintenance Manual.

Your safety, as well as the safety of others, is important to General Binding Corporation (GBC). This section contains important safety information which must be adhered to while operating, cleaning and performing basic maintenance in and around the machine.

### 1.1 Explanation of symbols



**INFORMATION:** *[This symbol is used prior to, during and/ or after a step. Following this symbol is important information pertaining to current subject.]*



**CAUTION:** *[This symbol is used prior to a step. The information following this symbol is to inform you of how to avoid harm to you, others around you or to the equipment.]*



**WARNING:** *[This symbol is used prior to a step. The information following this symbol is to inform you of how to avoid a dangerous situation.]*



**ELECTRICAL HAZARD:** *[This symbol is used prior to a step. The information following this symbol is to prevent an electrical shock condition that may be caused by an operator's action or machine function..]*

### 1.2 General rules of safety



**ELECTRICAL HAZARD:** Do not operate the laminator if power cord is damaged or frayed. You can be severely shocked, electrocuted or cause a fire.



**WARNING:** Do not operate this machine if your are not physically, psychologically or emotionally fit. Do not operate this machine until you have been trained and have read this manual in its entirety.



**WARNING:** Do not wear ties, loose fitting clothes or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.



**WARNING:** Never tamper with the safety devices to increase the laminator's production capacity. In the event a safety device should fail, never attempt to bypass it for operation. Consult a service representative immediately.

### 1.3 Primary function



**WARNING:** Never use this machine for any other purpose than its intended design and function.

The Spartan laminator is to be used only as a mounting and laminating machine. Only use acceptable materials when mounting and laminating with this machine.

All acceptable materials may be purchased from GBC. For your convenience, acceptable materials are listed below with product code numbers for fast and easy ordering.

#### Pouches ( 25 per box )

Sign 3745595 clear 5 mil (W)18.5 x (L)24.5  
Poster 3745596 clear 5 mil (W) 25 x (L) 37  
Display 3745597 clear 5 mil (W) 37 x (L) 49

#### Mounting Boards ( 10 per box )

Poster (white) 3745571 (W) 25 x (L) 37  
Poster (black) 3745575 (W) 25 x (L) 37  
Display (white) 3745572 (W) 37 x (L) 49  
Display (black) 3745576 (W) 37 x (L) 49

#### Pouchboards - clear ( 10 per box )

Poster (white) 3745579 (W) 25 x (L) 37  
Poster (black) 3745583 (W) 25 x (L) 37  
Display (white) 3745580 (W) 37 x (L) 49  
Display (black) 3745584 (W) 37 x (L) 49

#### Pouchboards - sand ( 10 per box )

Poster (white) 3745587 (W) 25 x (L) 37  
Poster (black) 3745591 (W) 25 x (L) 37  
Display (white) 3745588 (W) 37 x (L) 49  
Display (black) 3745592 (W) 37 x (L) 49



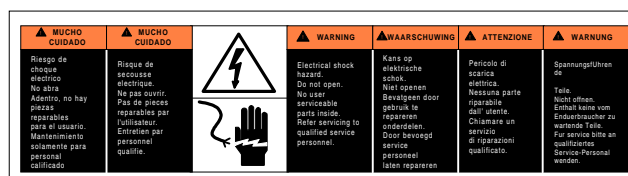
**INFORMATION:** If similar products are used, results may differ since temperature and speed is set for optimal results using GBC products.

### 1.4 Safety decals

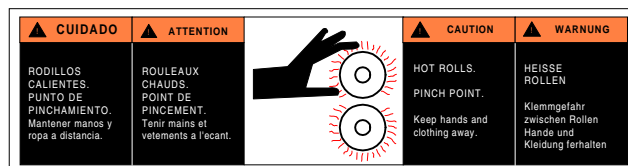


**INFORMATION:** Always observe all warning labels placed at various points on the laminator. If you do not completely understand a label, consult your manager for assistance.

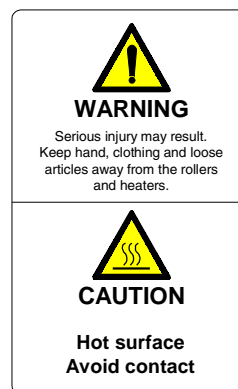
– **Electrical Shock:** Electrical shock hazard. Electrical voltage behind panel.



– **Roller Pinch Point:** Keep hands and fingers away. You may be crushed and or burned.

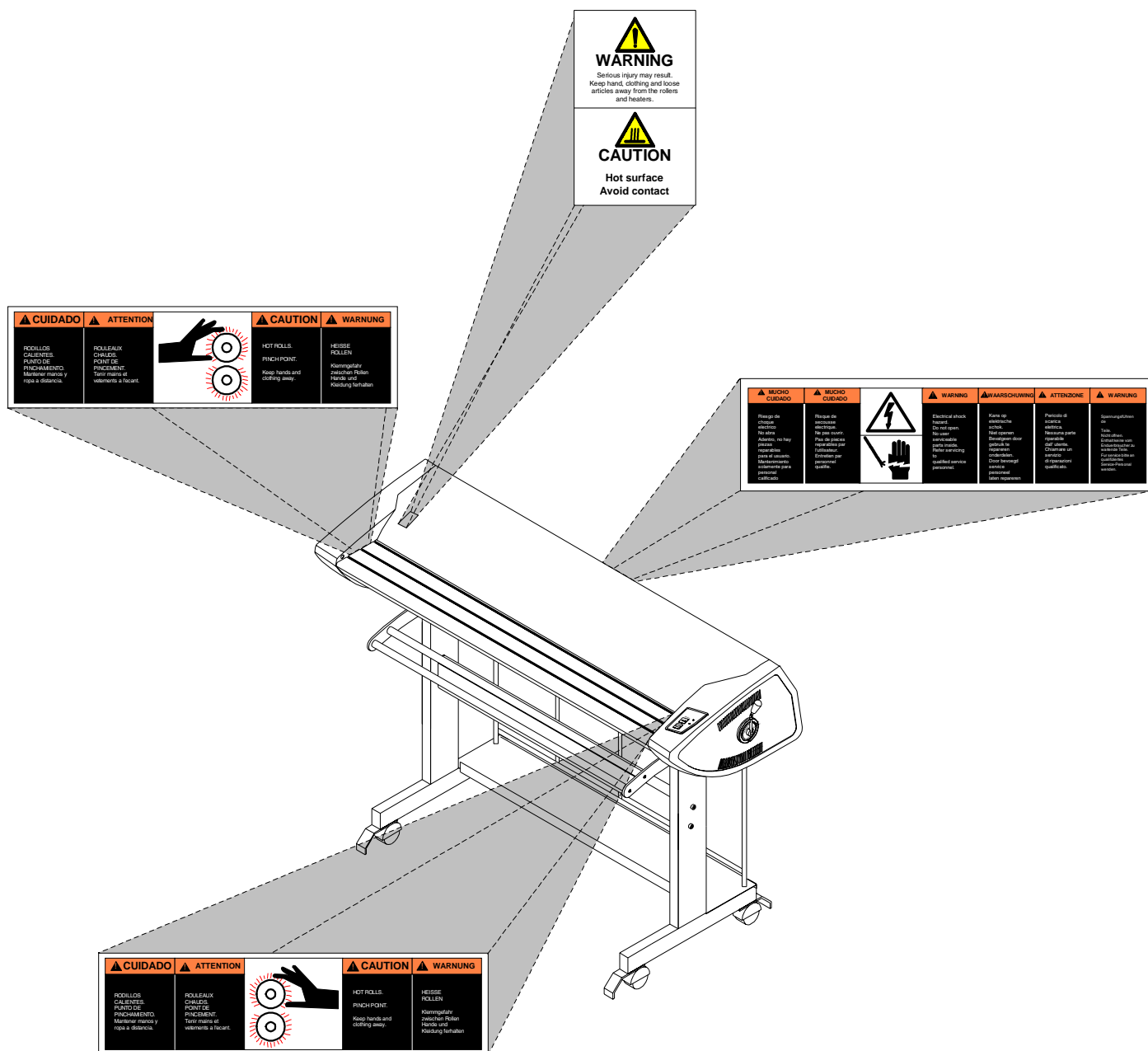


– **Keep clear/ Hot Surface:** Keep hands and fingers away. You may be crushed and or burned.



Refer to Figure 1.4.1 Safety Label Placement

Figure 1.4.1 Safety Label Placement







## 2.0 Warranty

GBC Films Group warrants the equipment to be free from defects in material and workmanship for a period of **90 days for parts and labor** from the date of installation. This warranty is the only warranty made by GBC Films Group and cannot be modified or amended.

**GBC Films Group's sole and exclusive liability and the customer's sole and exclusive remedy under this warranty shall be, at GBC Films Group's option, to repair or replace any such defective part or product. These remedies are only available if GBC Films Group's examination of the product discloses to GBC Films Group's satisfaction that such defects actually exist and were not caused by misuse, neglect, attempt to repair, unauthorized alteration or modification, incorrect line voltage, fire, accident, flood or other hazard.**

### 2.1 Limited Warranty

This warranty specifically does not cover damage to the laminating rollers caused by knives, razor blades, other sharp objects, failure caused by adhesives or improper use of the machine. Warranty repair or replacement does not extend the warranty beyond the initial 90 day period from the date of installation.



**CAUTION: Unauthorized customer alterations will void this warranty.**

**THE WARRANTY MADE HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. GBC FILMS GROUP WILL NOT BE LIABLE FOR PROPERTY**

**DAMAGE OR PERSONAL INJURY ( UNLESS PRIMARILY CAUSED BY ITS NEGLIGENCE ), LOSS OF PROFIT OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE EQUIPMENT.**

### 2.2 Exclusions to the Warranty

**This warranty specifically does not cover;**

- 1.** Damage to the laminating rolls caused by knives, razor blades, other sharp objects or failure caused by adhesives.
- 2.** Damage to the machine caused by lifting, tilting and/or any attempt to position the machine other than rolling on the installed castors on even surfaces.
- 3.** Improper use of the machine.
- 4.** Damage due from unqualified person(s) servicing the machine.

#### **Qualified;**

- Any engineer that has experience with electrical and mechanical design of lamination equipment. The engineer should be fully aware of all aspects of safety with regards to lamination equipment.

- Any commissioning or service engineer must be of competent nature, trained and qualified to GBC Films Group standards to fulfill that job. This person will have completed and passed the full service training course from GBC Films Group.

- Any GBC Technician, GBC Specialist, and / or GBC Films Group Technician that has been through the GBC Films Group service training course.

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## 3.0 Specifications

### Description:

Entry level laminator for encapsulation and mounting of poster size prints. The Spartan is a self standing laminating unit.

### Features:

Simple one touch operation

### Applications:

Mounting of poster size prints

Encapsulation of poster size prints

## 3.1 Consumable

### Material Types:

Thermal mount boards

Thermal pouch boards

Thermal pouches

### Material Widths:

38" maximum

## 3.2 Function

### Speed:

Preset for GBC materials

### Motor:

DC gear motor

### Heating:

Preset for GBC materials

### Controls:

Operations control panel

### Roll Design:

High release silicone

## 3.3 Electrical

### Laminator Rating:

240V, 60 Hz, 2500 W

### Requirements:

230-240 VAC, 60 Hz, single phase 15 amps.

### BTU Output:

8,535 BTU/Hour

### Heater Wattages:

2100 watts

### Amperage Draw:

Drive motor: 1 amp

Heaters: 9 amps

### DC voltage used:

36 VDC motor voltage

### AC voltage used:

230 VAC (minimum)

## 3.4 Dimensions and weight

### Weight:

Out of box: 250 lbs. (114 kg.)

boxed: 260 lbs. (118 kg.)

### Dimensions:

#### Refer to Figure 3.4.1 Dimensions

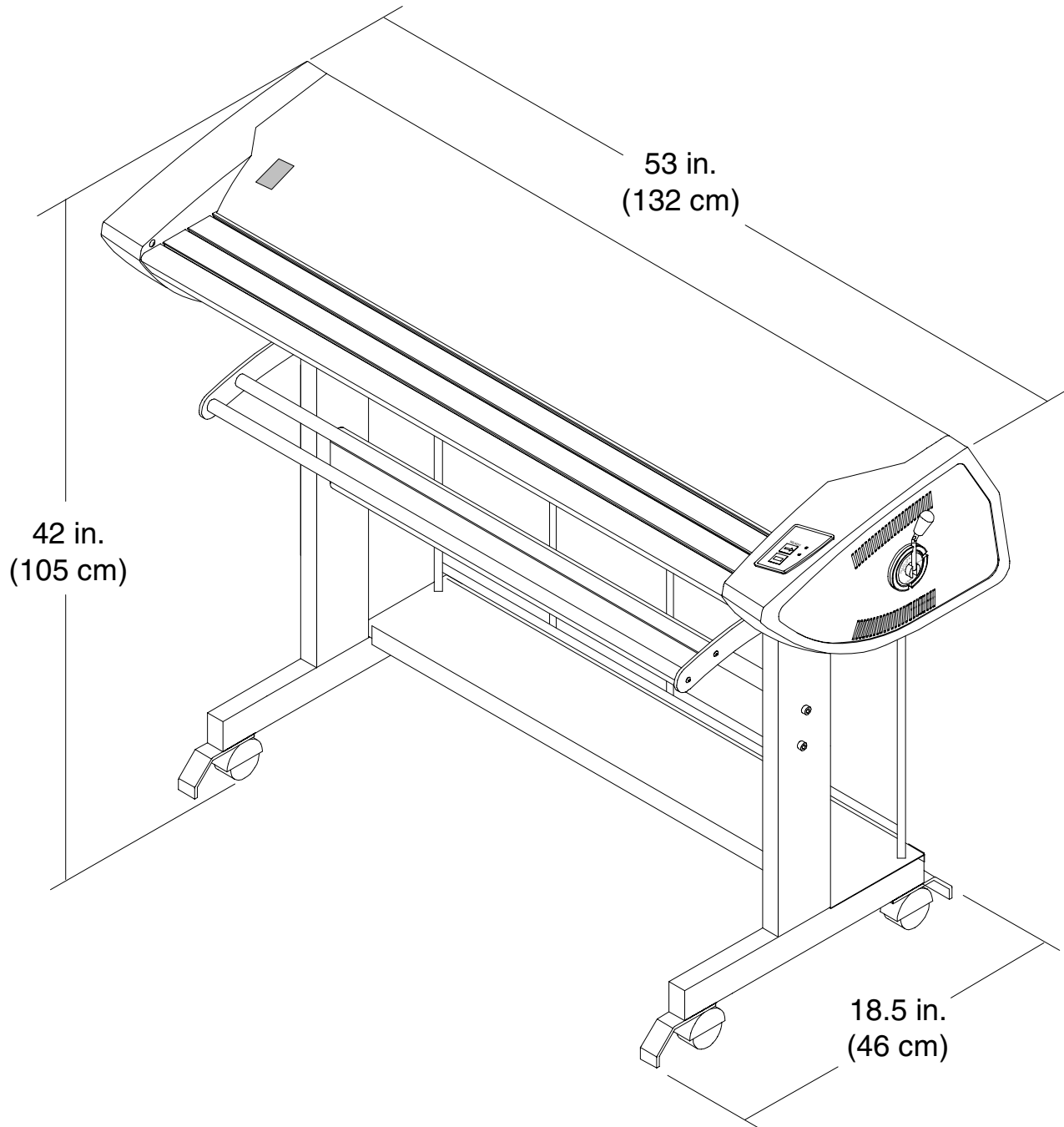
assembled: 42 in. (H) x 53 in. (W) x 18.5 in. (D)  
105 cm (H) x 132 cm (W) x 46 cm (D)

boxed: 18 in. (H) x 60 in. (W) x 25 in. (D)  
45 cm (H) x 150 cm (W) x 62.5 cm (D)

### Max Working Nip Opening:

3/16 in. (5 cm)

Figure 3.4.1 Dimensions



## 4.0 Installation

GBC Films Group is committed to a program of ongoing product improvement. As a result, we are providing these instructions so that you can insure that your new Spartan Laminator is properly and securely unpacked, moved and installed.

Before a Spartan Laminator can be installed, there are a few requirements that must be met. Make certain that each of the requirements listed in the following pre-installation checklist are met before beginning installation.



**CAUTION:** Failure to follow the pre-installation check list can result in damage to the laminator.

### 4.1 Pre-installation

- ☐ Are the doorways and hallways wide enough for the laminator to be moved to the installation site?
- ☐ Is there ample room for the laminator?
- ☐ A work area must be established that allows for unrestricted movement around the laminator and provides space for efficient material flow. Figure 4.1.4 and Figure 4.1.5 illustrates a typical machine area layout.
- ☐ Is the environment appropriate for the laminator?
- ☐ The laminator requires a clean, dust and vapor free environment to operate properly. It must not be located where there is air blowing directly on the machine.
- ☐ Have you contacted a certified electrician to install a receptacle for the laminator ensuring that adequate power is being supplied and correct circuit breaker?



**WARNING:** The operating environment must be free of dust, flammable liquids and vapors. You can be injured by inhaling chemical vapors.



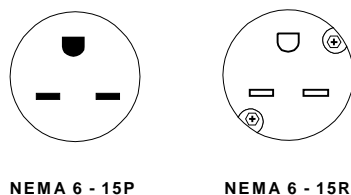
**WARNING:** Vapor build up or stored flammable liquids can cause a fire. Excessive dust can damage the laminator.



**CAUTION:** Do not locate the laminator where air can blow directly on the machine. The air flow can cool the rollers unevenly and result in poor quality output.

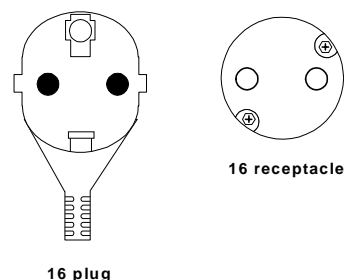
- ☐ US and Canada: The laminator requires 230-240 vac, 60 Hz, 15 amps, single phase

**Figure 4.1.1 Connections-Spartan US**



- ☐ Europe: The laminator requires 230-240, 50 Hz 16 amps, single phase

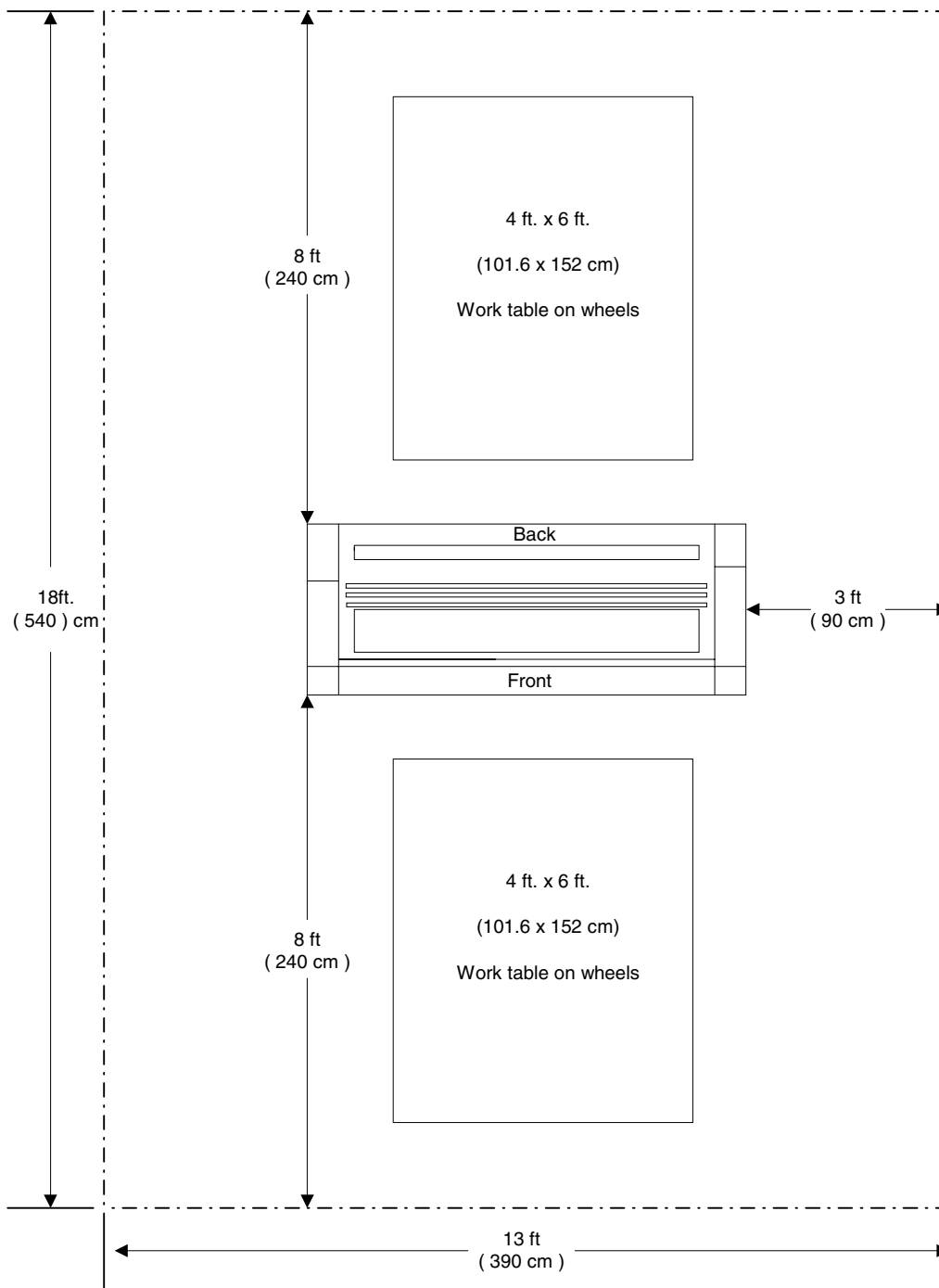
**Figure 4.1.2 Connections-Spartan Europe**



## 4.2 Suggested floor layout

A safe work area constitutes enough room to work with the materials at hand while being free to move around the laminator without interference from the laminator. Refer to the figure below for a suggested floor layout example.

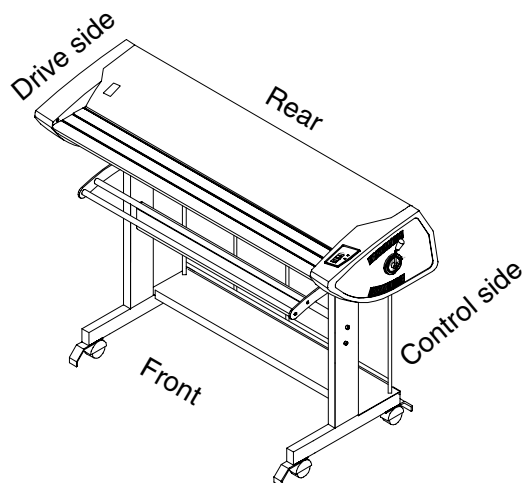
**Figure 4.2.1 Suggest floor layout example**



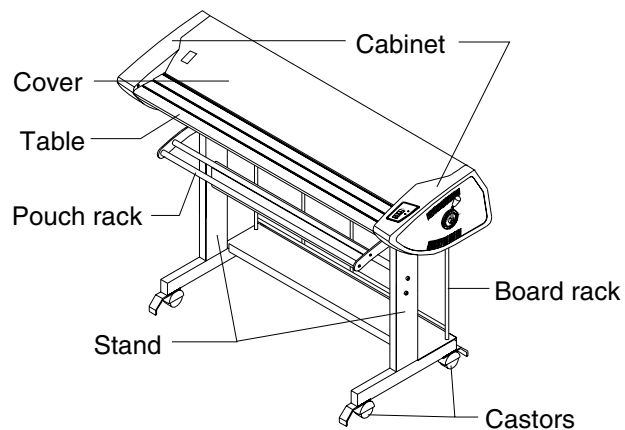
## 4.3 Know your laminator

Before performing any procedure within this manual, it is recommended that you take time to know your laminator.

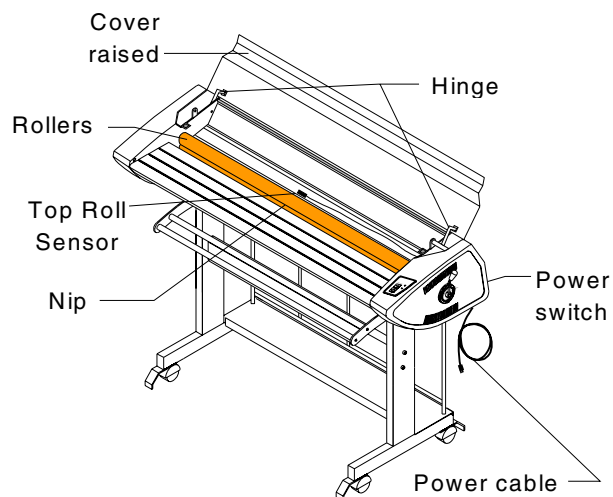
### Sides of the laminator



### Parts on the laminator



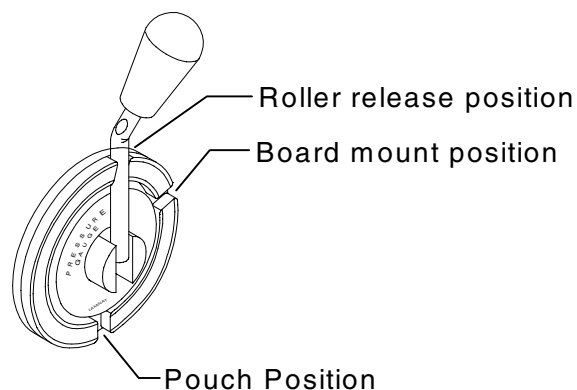
### Under the cover



### Control Panel



### Roller pressure control



## 4.4 Unpacking



**INFORMATION:** All shipments are ex-works. At our docks, title passes to the buyer. Please review your insurance coverage prior to shipment, as you are responsible for all subsequent freight charges and risks.



**INFORMATION:** Before signing the Bill of Lading, be sure to inspect the crate, box and/ or pallet for signs of damage or missing items. If applicable, make note of this on the Bill of lading.

1. Inspect the machine for any obvious shipping damages upon receipt.
2. Carefully unwrap the shrink wrap from around the laminator.



**CAUTION:** Do not use a knife or other sharp object to remove any shrink wrap from around the laminator. You can cause irreparable damage to the rollers!

3. With another person, carefully remove the contents and assemble the laminator.
4. With assistance, carefully move the laminator to the desired location.



**WARNING:** Do not attempt to move the laminator across anything other than a flat level surface alone. You can be crushed or seriously injured.



**WARNING:** Do not turn the laminator sideways, upside down or vertical when moving. This will disrupt the alignment of internal moving parts.



## 5.0 Operations



**WARNING:** Do not wear ties, loose fitting clothes or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.



**CAUTION:** Do not block the Top Roll Sensor. If the sensor becomes obstructed, over heating may occur and cause irreparable damage to the rollers or a fire.

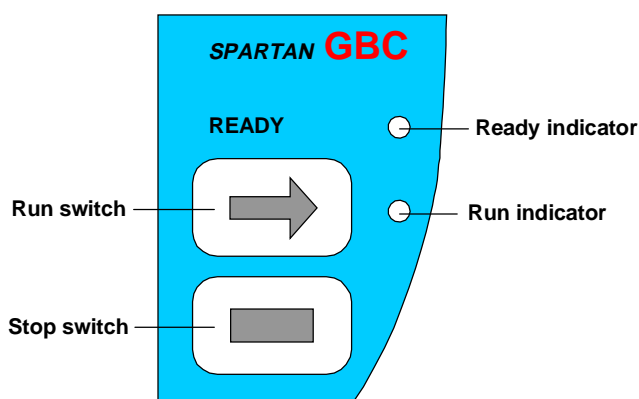


**INFORMATION:** The laminator will only run when the roller cover is in the down (closed) position.

### 5.1 Control Panel

The control panel is located on the right hand side from the front operating position of the laminator. From the control panel, the operator is able to control the motor run and motor stop function.

Figure 5.1.1 Control panel



**RUN** – When pressed, engages the motor that drives the rollers.



**INFORMATION:** The laminator only operates in one direction, forward. There is no reverse function on this machine. Stop the roller and release roller pressure to manually move the product backwards.



**STOP** – When pressed, stops the roller by removing power to the motor.



**READY** – When illuminated, represents the rollers are up to operating temperature.



**INFORMATION:** Do not run material until READY is illuminated. Attempting to run prior to this will result in poor output quality.



**RUN** – when illuminated, represents the motor engaged and the rollers are turning.



**INFORMATION:** The motor will only engage if the cover is in the lowered position.



**WARNING:** Never attempt to bypass the cover safety switch to operate the laminator. This can result in serious injury to you or others.

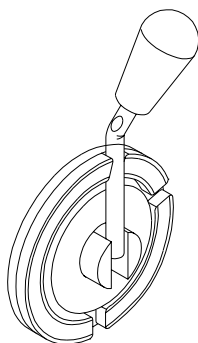
## 5.2 Roller pressure handle

The roller pressure handle sets the roller nip opening for the desired application with the material being used.



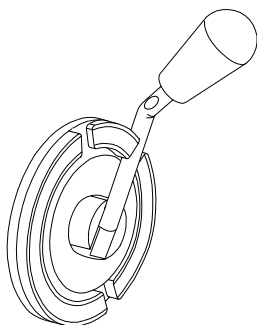
**INFORMATION:** Never attempt to alter the factory preset settings for the nip opening or speed. Contact your local service representative if you feel the roller pressure handle requires calibrating.

### Roller release position



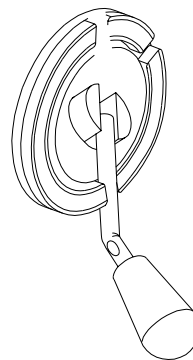
– Use this position when the laminator is not in use or no nip pressure is required. This is the maximum nip opening position.

### Foam pouch position



– Use this position when using board type materials through the laminator. This nip opening and speed is preset for GBC materials.

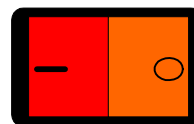
### Laminating position



– Use this position when running film pouch type materials. This is the minimum nip opening position. This nip opening and speed is preset for GBC materials.

## 5.3 ON/ OFF power switch

The power ON/ OFF turns your laminator on. When the laminator is on, the rollers begin heating automatically.



(–) This is the **ON** position for the laminator.

(O) This is the **OFF** position for the laminator.



**CAUTION:** During long periods of no use, 30 minutes or greater, you should turn power off to the laminator. This will prevent hot spots from forming on the rollers.

## 6.0 Applications

The Spartan laminator will accommodate GBC mounting boards and lamination pouches. This section will describe how each process is run on the laminator.



**INFORMATION:** The leading edge will always be the edge which is sealed. The opposite edge is referred to as the trailing edge.

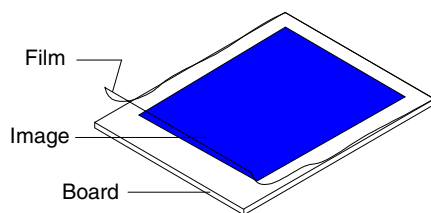


**CAUTION:** When changing from one application to another (example: lamination pouch to pouch boards), allow the machine to run for approx. 20 min after setting pressure handle to let the roller temperature reach correct operating temperature. The top roll sensor only reads the top roll and the bottom roll may not be the correct temperature.

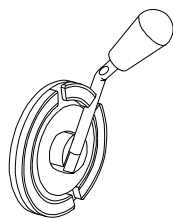
### 6.1 Pouch boards

1. Turn the laminator on.

2. Center the image on the board under the film.

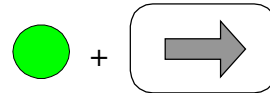


3. Set the pressure handle to the foam pouch position.

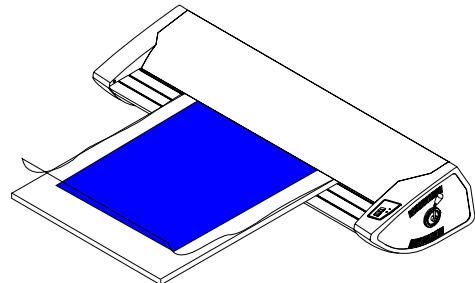


4. Wait for **READY** to illuminate.

5. Press **RUN**.

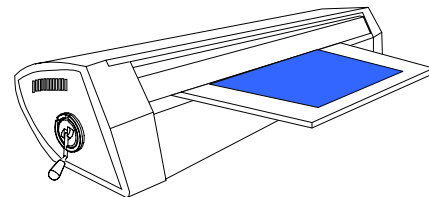


6. Align the leading edge of the pouch board slightly off center of the table.

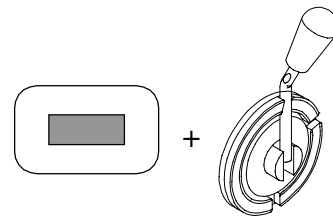


7. Gently slide the pouch board into the roller nip until you feel the rollers catch the board.

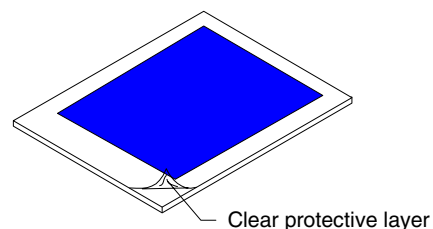
8. Support the board as it exits the rear of the laminator.



9. Press **STOP** and set the pressure handle to the roller release position.

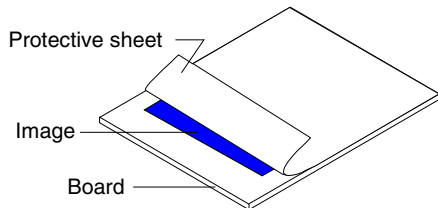


10. Peel the clear protective layer off the board and trim to desired size.

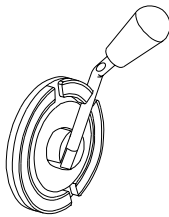


## 6.2 Mounting boards

1. Turn the laminator on.
2. Center the image on the board under the protective sheet.

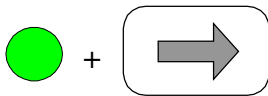


3. Set the pressure handle to the foam pouch position.

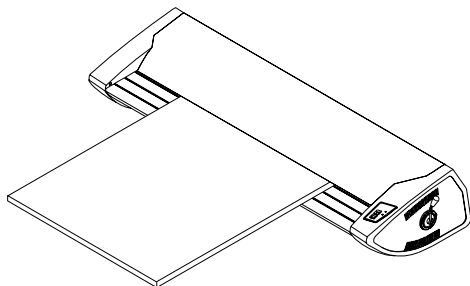


4. Wait for **READY** to illuminate.

5. Press **RUN**.

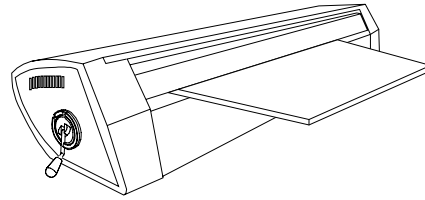


6. Align the leading edge of the mounting board slightly off center of the table.

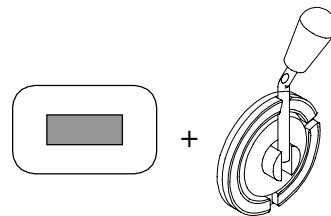


7. Gently slide the mounting board into the roller nip until you feel the rollers catch the board.

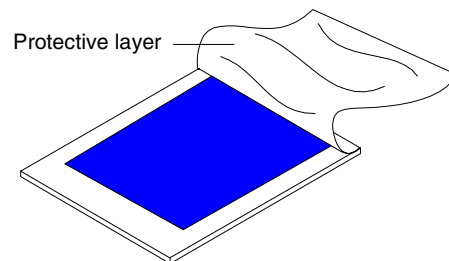
8. Support the board as it exits the rear of the laminator.



9. Press **STOP** and set the pressure handle to the roller release position.



10. Pull the protective layer off the board and trim to desired size.

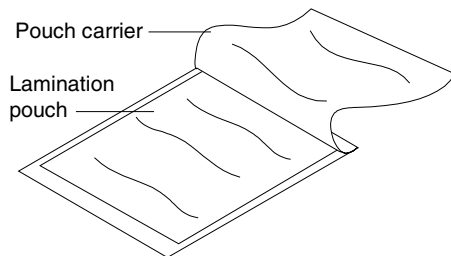


## 6.3 Lamination pouches

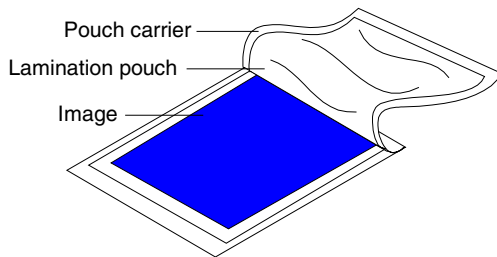


**INFORMATION:** Treat the pouch carriers carefully as they may be reused until you see wrinkles in the lamination.

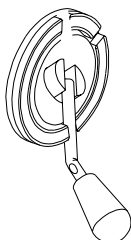
1. Turn the laminator on.
2. Center the lamination pouch between the two sheets of the pouch carrier.



3. Fold the top sheet of the pouch carrier and the lamination pouch over.
4. Center the image on the lamination pouch and carefully lay the top sheets back over the image.

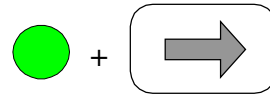


5. Set the pressure handle to the lamination position.

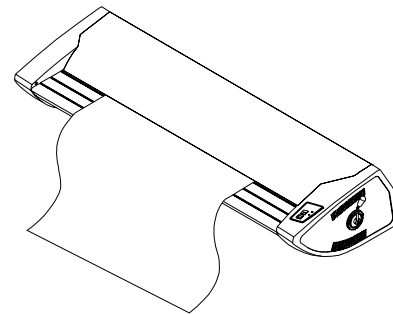


6. Wait for **READY** to illuminate.

7. Press **RUN**.

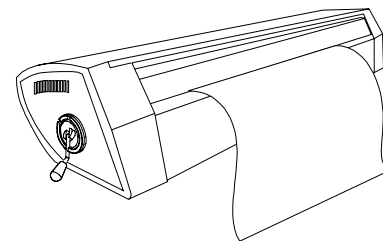


8. Align the leading edge of the pouch carrier containing the lamination pouch and image slightly off center of the table.

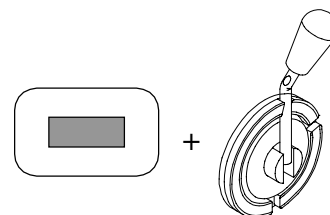


9. Gently slide the pouch carrier into the roller nip until you feel the rollers catch the pouch carrier.

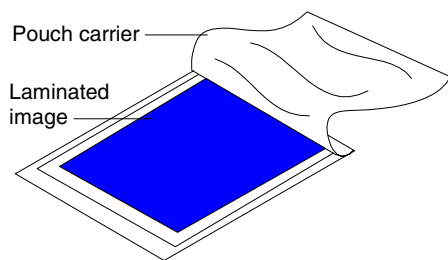
10. As the pouch carrier nears its end, be prepared to catch the pouch carrier as it exits the rear of the laminator.



11. Press **STOP** and set the pressure handle to the roller release position.



**12.** Remove the laminated image from the pouch carrier and trim to desired size.



- Laminated pouch output has a tendency to become wavy when excess film to film lamination is left on the outer parameter of the image being laminated. When trimmed to the edge of the sheet, the output should be flat. As the amount of film to film lamination increases, the quality of the output decreases.

### 6.4 Helpful Hints

The following hints will help you get the best possible output from your Spartan laminator:

#### **Pouch Boards:**

- It is critical that at the leading edge, the film is evenly secured to the board. If the corners are dented or crushed, cut the damaged part off to prevent wrinkles and waves.
- If switching from lamination pouches to pouch boards, wait for the bottom roller to cool before running boards (approx. 20 min). A hot bottom roller will bubble the back of the board. To speed the cooling process, a scrap board may be run through the machine 2-3 times to help cool the bottom roller.

#### **Laminating Pouches:**

- To reduce waving affect, match the size of the pouch as close to the image size as possible. This will allow the stresses on the envelope to be more even, resulting in a smoother laminated image.
- Some substrates will be affected by the heat and stress of the laminating pouch to different degrees. Trimming the image as close to the edge as possible can reduce waving in the image.
- It is recommended to prepare the envelope on a separate table away from the heated rollers as the image can be damaged if the front edge is heated before all parts of the envelope are smoothed out.

## 7.0 Maintenance

GBC Films Group laminators require minimal maintenance. However, regular maintenance is essential to keep any piece of precision machinery at peak performance. A maintenance schedule and a section of procedures are included in this section.



**WARNING:** Do not wear ties, loose fitting clothes or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.



**INFORMATION:** Improper maintenance can result in poor output quality.

GBC offers Cleaning kits ( P/N 1711515 ) as well as Extended Maintenance Agreements.

The only maintenance required by the operator is to maintain clean and adhesive free nip rollers and overall cleanliness of the laminator itself.



**ELECTRICAL HAZARD:** Do not use liquid or aerosol cleaners on the laminator. Do not spill liquid of any kind on the laminator. You can be severely shocked, killed or cause a fire. Use only a damp cloth for cleaning unless other wise specified.

## 7.1 Cabinets, cover and stand



**ELECTRICAL HAZARD:** Remove power from the laminator before cleaning. You can be severely shocked, killed or cause a fire.

1. Use a damp ( use water only to dampen the cloth ) white terry cloth towel to wipe dust from the cabinets, cover and stand.

## 7.2 Rollers



**CAUTION:** Never clean the rollers with sharp or pointed objects. You may put irreparable cuts into the rollers.



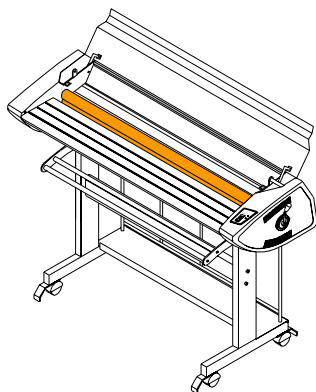
**INFORMATION:** Power is required to rotate the rollers which means heat will be present as well.

### 7.2.1 Stains/ dust on rollers

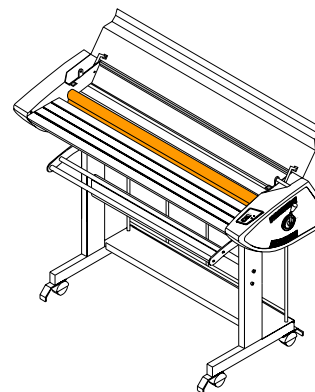


**CAUTION:** The following procedure is performed while the laminator is HOT! Use extreme caution!

1. Set the pressure handle to the roller release position and raise the cover.



1. Set the pressure handle to the roller release position and raise the cover.



2. Use a damp ( use water only to dampen the cloth ) white terry cloth towel to wipe dust from the upper roller.

2. With a rubber cement eraser or Scotch Brite™ gently rub the adhesive on the roller.

3. For the lower roller, close the cover, press **RUN** to rotate the lower roller to a new area to clean.

4. Repeat the steps above until the lower roller is cleaned



**CAUTION:** Excessive pressure can destroy the silicone layer by pressing too hard or scrubbing too long in one spot.

### 7.2.2 Adhesive on rollers



**CAUTION:** Hardened adhesive deposits on the rollers can cause damage to the rollers.



**CAUTION:** Do NOT pick or pull heat activated adhesive off the rolls when they are cold. You can cause irreparable damage to the laminating rolls.



**CAUTION:** The following procedure is performed while the laminator is **HOT!** Use extreme caution!

3. Use a damp (water only) white terry cloth towel to wipe adhesive beads off the roller.

4. For the lower roller, close the cover, press **RUN** to rotate the lower roller to a new area to clean.

5. Repeat the steps above until the lower roller is cleaned







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